NEWPORT NEWS
SHIPBUILDING

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46282

October 30, 1998

Docket Management Facility
(USCG –1998-3798)-4
U.S. Department of Transportation
Room PL-40 1
400 Seventh Street S.W.
Washington D.C. 20590-0001

Reference:
(a) Federal Register dated 8 July 1998, Volume 63, Number 128

Enclosures:
(1) Photographs of Barge Numbers Applied Using Stud Welding
(2) Photograph of Cross-sectional Area Showing Depth of Penetration
(3) Photograph Showing Outline of Studs in Base Metal After Stud Removal
(4) Photographs Showing Back Side of Plates After Stud Welding
(5) Photograph Showing Area Being Prepped for Stud Welding
(6) ABS Letter of 2 February 1993 Accepting Stud Welding for Underwater Inspection in Lieu of Drydocking Markings
(7) Photograph of Hailing Port Marking for M/V Buffalo Soldier

Dear Sir:

The following comments are provided in response to the questions asked by the U.S. Coast Guard in the Advance Notice of Proposed Rulemaking published in Reference (a). They address only those questions relating to barge numbering, location of marking and means of attachment.

The Coast Guard should use the letter "U" (for Undocumented) and a five-digit number for undocumented barges. This will provide 100,000 unique numbers for undocumented barges.

The numbers should also be at least 4" (100 mm) in height and painted in a contrasting color for easy identification. The barge numbers should be positioned on the side of the barge on the port and starboard quarters and three meters forward of the stern of the barge. This provides a standard place for locating the barge numbers in the event an attempt is made to remove them.

The means of attachment should be permanent. While bead welding numbers is typical, Newport News Shipbuilding has developed a process for using stud welding to permanently affix the numbers on the barge. Enclosure (1) shows the steps in attaching barge numbers using this procedure.

This stud welding process is permanent. The studs penetrate the base metal. Enclosure (2) is a photograph of the cross sectional area for a 1/4" plate. (The actual depth is dependent on the current and the cycle time set for the weld, which is determined by the thickness of the plate.) Even if the studs were to be sheared off and ground flush, acid etching of the location will still reveal the barge number. Please see enclosure (3).

This method offers the following advantages:

(1) There is less damage to the back side coatings. Photographs of the back side of the plates showing the effect of the heat are provided in enclosure (4). As can be seen in these photographs, the 3/16" and 1/4" samples showed only moderate blistering of the paint with no sign of burning or disruption of the surface seal. The 5/16" sample (see circled area) showed no visible signs of paint disturbance by heat.
(2) Less preparation time is required compared to bead welding because only the spot where the stud is attached must be cleaned and prepped, not the entire area as would be required for bead welding. Please see Enclosure (5).
(3) Training requirements for this method are minimal because the parameters for operating the stud welding equipment are preset. Certified welders would not be required.
(4) The process takes approximately two minutes for each letter/number (12 minutes for a six digit number compared to approximately 30 minutes required for manual welding).

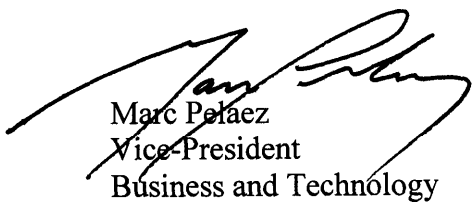
The American Bureau of Shipping has accepted this method as a means of marking positions on the hull for Underwater Inspection in Lieu of Drydocking for the M/V Buffalo Soldier. Please see Enclosure (6).

The Coast Guard accepted this method for marking the hailing port of the M/V Buffalo Soldier. Please see the photographs in Enclosure (7).

Based on the considerations discussed above, we urge that this method be clearly indicated in the barge numbering regulations as an acceptable means of permanently attaching numbers.

We appreciate the opportunity to provide our input to this regulation project.

Sincerely,



Marc Pelaez
Vice-President
Business and Technology
Development

AVAILIBILITY OF NON-SCANNABLE ITEMS

USCG-98-3798-4

Docket / Document Number

Old Docket Number, If any

Non-Scannable Items: -Photographs, Enclosure(l) 1/4, Enclosure (1) 2/4 Enclosure (1) 3/4, Enclosure (1) 4/4, Enclosure (2), Enclosure (3) Enclosure (4) 1/3, Enclosure (4) 2/3, Enclosure (4) 3/3, Enclosure (5) and Enclosure (7)

Name / Description of Item(s) non-scannable

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Agency / Office Name / Room Number / Contact Person {if any)

during the hours of 8:00 a.m. to 4:00 p.m. Monday through Friday.

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Date: 2 Feb 93

FAX TRANSMISSION COVER SHEET

BRANCH CODE: 361

FILE REF: s-1

TO: Newport News Shipbuilding

COPIES (by FAX):
L. Derchi, Dist. Mgr.
ABS Corp. Service Ctr.

ATTN: Mr. Robert P. Leber, Director, Ship Repair

FAX NO.

FROM: ABS Newport News

SUBJECT: "BUFFALO SOLDIER" ID 7804538
(BV Vessel Proposed for Classification)

Dear Mr. Leber:

In reference to your letter of 28 January, 1993, wherein you requested ABS approval to use 'drawn arc stud welding' for the Underwater Hull Markings on subject vessel, please be advised that your proposal was discussed with our Houston Materials Department and we have no objections to this plan, provided the welding and markings are carried out according to the approved drawings and to the satisfaction of the attending Surveyor.

Very truly yours,

Robert E. Bryant, Jr.
Principal Surveyor
Newport News/Tidewater Are

REB/js

cc: J. Rants, Attending Surveyor

ENCLOSURE (6)

F.4.2

Newport News Shipbuilding
A Tenneco Company

4101 Washington Avenue
Newport News, Virginia 23607
(804) 380-2000

January 28, 1993

Mr. Robert E. Bryant
Principle Surveyor
American Bureau of Shipping
Rouse Tower, Suite 3015
6060 Jefferson Avenue
Newport News, Virginia 23605

Dear Mr. Bryant:

Newport News Shipbuilding (NNS) has contracted to mark hull sections, **overboard** discharges and sea chests on the M.V. *BUFFALO SOLDIER* while in dry dock February 2, 1993 through February 10, 1993. These hull markings and **other modifications are for Mute** bottom surveys with the vessel afloat. **The ship specifications call for all letters and figures** of the hull markings to be outlined **by raised 6mm (0.24") weld bead.**

NNS requests approval of the following alternative method of permanently marking the hull.

NNS proposes to use drawn arc stud welding to create the letters and figures of the hull markings. A Nelson carbon **steel** non-threaded, knock-off, non-skid stud would be used with a 5/16" diameter, 7/8" length and 3/8" knock-off. These studs will be shot with **3/4"** to 1 1/4" between centers to form the required letters and **figures. The** applied **stud will be** 5/16" diameter and **3/16"** to **5/16"** high.

The studs will be shot using drawn arc stud welding over a bare metal hull **surface.** The stud markings **will** be cleaned and **painted with the surrounding hull surface. Final** painting of the letters and figures will be done over the studs, through **the shapes formed by** the studs. These painted markings will be made to the heights, lengths, and widths **required** by ship specifications.

Newport News Shipbuilding requests the approval of the American Bureau of Shipping to use this alternate method of providing permanent hull markings. The ship **owners will** consider this deviation pending procedural approval by the American Bureau **of Shipping.**

Sincerely,

Robert P. Leber
Director, Ship Repair

cc: G. L. Ranes